

REMARKS

Claims 1-47 are pending in this application. Claim 2 has been cancelled and claims 48-60 have been added.

The Office Action dated May 19, 2004, and the references cited therein have been received and carefully reviewed. The issues raised in that Office Action were discussed with the examiner during a personal interview on August 12, 2004, and, as an initial matter, Applicant's representative would like to thank the examiner for the courtesies extended during that interview. A summary of the interview is provided below in accordance with MPEP 713.04.

INTERVIEW SUMMARY

Claims 1, 19, and 30 were discussed as were the Perona and Taguchi references. No exhibits were shown or discussed, and no amendments were proposed. The general thrust of Applicant's arguments was that 1) there is no motivation to combine the Perona and Taguchi references and 2) Taguchi functions by reading handwriting as it appears on a page and does not determine how the recording means have been moved as required by the pending claims.

OBJECTION TO SPECIFICATION

Paragraph three of the Office Action indicates that Swedish Patent Application No. 9704924-1 is improperly incorporated by reference "because the present application does not claim priority

on the Swedish reference." It is respectfully submitted that a claim to priority is not at issue in this case. MPEP 608.01(p) provides that "non-essential subject matter may be incorporated by reference to (1) patents or applications published by the United States or foreign countries...." The Swedish patent application describes "an alternate way of matching images." Because a first way of matching images has already been described in the application, it is respectfully submitted that the alternate way of matching images is cumulative and therefore non-essential.

Moreover, the alternate way of matching images is described in properly incorporated U.S. Patent 6,563,951. This further shows that the disclosure of the Swedish patent application does not constitute essential subject matter. It is therefore respectfully submitted that the disclosure of the Swedish patent application is non-essential subject matter and is properly incorporated by reference in the present application. If this objection is maintained, it is respectfully requested that the examiner explain how the material in the Swedish application constitutes essential subject matter as discussed in MPEP 608.01(p). Otherwise, it is respectfully requested that this objection be withdrawn.

REJECTIONS UNDER 35 U.S.C. 103(a)

Claim 1 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Perona in view of Taguchi. The examiner asserted

during the interview that Taguchi teaches all elements of the claimed invention except for the "image processing means adapted to ... store the hand-written information by storing the description of how the recording means have been moved." The examiner asserted that Perona teaches this storing limitation and that it would have been obvious to combine the two references. Applicant respectfully traverses this rejection.

The first source of motivation for combining Perona and Taguchi identified in the Office Action is that "Perona's system cannot generate the image of the hand-written content in a clean fashion without showing the image of the hand that writes the contents." This statement is not supported by Taguchi's column 1, lines 37-47 as set forth in the Office Action. Moreover, neither reference suggests that an image of a hand necessarily appears in prior art systems or that the presence of such an image poses any problem that needs to be addressed. The problem identified by the Office Action as the motivation for combining references does not exist, and thus cannot be the motivation for combining Perona and Taguchi.

Moreover, even if a motivation to combine Perona and Taguchi had been identified, the combination would not result in the claimed invention. It is asserted in the Office Action that it would have been obvious to replace Perona's separate pen and camera with Taguchi's recording means. However, the Perona system works

by monitoring the location of a pen tip with respect to an entire writing surface. This is explained, for example, in Perona, column 4, lines 35-39, wherein an initialization method is described that "uses a pointer device such as a mouse to click on the pen tip in the first frame. The mouse driver returns the x and y screen coordinates of the tip of the pen." Thus the x and y coordinates of the pen tip on a writing surface are tracked by Perona's system to recognize handwriting. Taguchi's system works in a different manner and provides only a limited field of view for an image sensor receiving images through opening 21. This limited field of view does not encompass the entire writing surface, and therefore Taguchi could not provide the x, y coordinate information required by Perona's system to operate. Therefore, even if a motivation to combine these references could be identified, the resulting combination would be non-functional and would not render the invention required by claim 1 obvious.

Claims 3-18 depend from claim 1 and are therefore submitted to be allowable for the same reasons as claim 1.

Claim 19 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Perona in view of Taguchi. As with claim 1, the examiner asserts that Taguchi shows all elements required by claim 19 except for the step of "storing the hand-written information by storing the description of how the device has been moved," and Perona is thus combined with Taguchi to address this shortcoming of

Taguchi. For the reasons provided in connection with claim 1 above, it is respectfully submitted that 1) there is no motivation to combine Perona and Taguchi and 2) that even if these references could properly be combined, the resulting device would be non-functional and would not render obvious the method of claim 19. Claim 19 and its dependent claims 20-29 are therefore submitted to be allowable over the art of record.

Claim 30 also stands rejected under 35 U.S.C. 103(a) as being unpatentable over Perona in view of Taguchi. The limitations of claim 30 distinguish claim 30 over the prior art for the same reasons the limitations of claim 1 distinguish claim 1 over the prior art. For the reasons provided above in connection with claim 1, it is submitted that claim 30 and its dependent claims 31-47 are allowable over the art of record.

During the interview, Applicant's representative noted that Taguchi works by reading a mark on a page and therefore requires a lead 2 or similar marking device to function. Applicant's representative noted that the claimed invention determines how a recording means moves without requiring that a mark be made. The examiner could not immediately counter this statement concerning Taguchi. The examiner further seemed to suggest that, subject to a further review of Taguchi, claims directed to a system that did not require the presence of a mark would distinguish over Taguchi.

New claims 48-60 were drafted to define a method of and device

for recording handwritten information defined by a hand movement which method and device do not require the presence of a mark. Specifically, claim 48 requires the steps of providing a surface having a pattern, providing an imaging device, moving the imaging device with a hand which is carrying out a hand movement relative to the surface while recording with the imaging device a plurality of images of the surface pattern with partially overlapping contents, determining the relative positions of the images with the aid of the partially overlapping contents, and providing a description in digital format of how the imaging device has been moved based on the relative positions of the surface pattern in the partially overlapping images. Thus it is the relative positions of surface patterns that are being used to record handwritten information rather than marks made by the recording device itself as taught by Taguchi. This feature is not shown or suggested by the prior art of record, and it is therefore submitted that claims 48 is allowable over the art of record.

Claims 49-51 depend from claim 49 and are therefore allowable for the same reasons as claim 48.

Claim 52 requires a method of recording handwritten information that includes the steps of providing a surface having a preexisting pattern, providing an imaging device, moving the imaging device with a hand which is carrying out the hand movement relative to the surface while recording with the imaging device a

plurality of images of the preexisting pattern with partially overlapping contents, determining the relative positions of the images with the aid of the partially overlapping contents; and providing a description in digital format of how the imaging device has been moved based at least in part on the relative positions of the preexisting pattern in the partially overlapping images. These features are not shown or suggested by the prior art of record. For this reason, and the reasons provided above in connection with claim 48, it is submitted that claims 52 and its dependent claims 53-55 are allowable over the art of record.

New claim 56 requires a method of recording handwritten information defined by a hand movement that includes the steps of providing a surface having a pattern, providing an imaging device, moving the imaging device with a hand which is carrying out the hand movement relative to the surface while recording with the imaging device a plurality of images of the surface pattern with partially overlapping contents, and providing a description in digital format of how the imaging device has been moved by determining the relative positions of the images with the aid of the partially overlapping contents. These features are not shown or suggested by the prior art. For this reason, and the reasons provide above in connection with claim 48, it is respectfully submitted that claim 56 and its dependent claims 57-58 are allowable over the art of record.

New claim 59 requires a device for recording handwritten information defined by a hand movement that includes an imaging device adapted to be moved by a hand which carries out the hand movement and to record a plurality of images with partially overlapping contents of a surface having a pattern while the imaging device is being moved, and an image processor adapted to determine the relative positions of the surface pattern in the images with the aid of the partially overlapping contents and to provide a description in digital format of how the imaging device has been moved based on the relative positions of the surface pattern in the partially overlapping images. A device having these elements is not shown or suggested by the prior art. Therefore, and for the reasons provided above in connection with claim 48, claim 59 is submitted to be allowable over the art of record.

New claim 60 requires a device for recording handwritten information defined by a hand movement that includes an imaging device adapted to be moved by a hand which carries out the hand movement and to record a plurality of images with partially overlapping contents of a surface having a preexisting pattern while the imaging device is being moved, and an image processor adapted to determine the relative positions of the preexisting pattern in the images with the aid of the partially overlapping contents and to provide a description in digital format of how the imaging device has been moved based at least partially on the

relative positions of the preexisting pattern in the partially overlapping images. A device having these elements is not shown or suggested by the prior art. Therefore, and for the reasons provided above in connection with the claim 48, claim 60 is submitted to be allowable over the art of record.

Conclusion

Each issue raised in the Office Action dated May 19, 2004, has been addressed, and it is believed that claims 1 and 3-60 are in condition for allowance. Wherefore, reconsideration and allowance of claims 1 and 3-47 and examination and allowance of claims 48-60 is earnestly solicited.

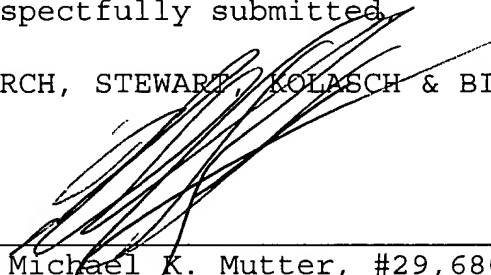
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Scott Wakeman (Reg. No. 37,750) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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